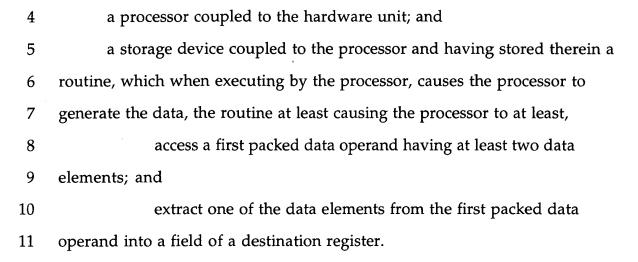# CLAIMS

What is claimed is:

1 **1.**   A computer system comprising:

2   a hardware unit to transmit data representing graphics to another

3 computer or a display;

4   a processor coupled to the hardware unit; and

5   a storage device coupled to the processor and having stored therein a

6 routine, which when executing by the processor, causes the processor to

7 generate the data, the routine at least causing the processor to at least,

8   access a first data operand having a data element;

9   access a second packed data operand having at least two data

10 elements;

11   insert the data element in the first data operand into a

12 destination field of a destination register.

1 **2.**   The computer system of claim **1** wherein the storage device further

2 comprises a packing device for packing floating point data into the data

3 elements.

1 **3.**   The computer system of claim **1** wherein the storage device further

2 comprises a packing device for packing integer data into the data elements.

1 **4.**   A computer system comprising:

2   a hardware unit to transmit data representing graphics to another

3 computer or a display;

4   a processor coupled to the hardware unit; and

5   a storage device coupled to the processor and having stored therein a

6   routine, which when executing by the processor, causes the processor to

7   generate the data, the routine at least causing the processor to at least,

8   access a first packed data operand having at least two data

9   elements; and

10   extract one of the data elements from the first packed data

11   operand into a field of a destination register.

1   5.   The computer system of claim 4 wherein the storage device further

2   causes the processor to extract one of the data elements from the first packed

3   data operand into a field of a packed destination register.

1   6.   The computer system of claim 4 wherein the storage device further

2   comprises a packing device for packing floating point data into the data

3   elements.

1   7.   The computer system of claim 4 wherein the storage device further

2   comprises a packing device for packing integer data into the data elements.

1   **8.**   A method comprising the computer-implemented steps of:

2   decoding a single instruction;

3   in response to the step of decoding the single instruction,

4   accessing a first data operand having a data element;

5   accessing a second packed data operand having at least two data

6 elements;

7   inserting the data element in the first data operand into a

8 destination field of a destination register.

1   **9.**   The method of claim **8** further comprising the step of packing floating

2 point data into the data elements.

1   **10.**   The method of claim **8** further comprising the step of packing integer

2 data into the data elements.

1   **11.**   A method comprising the computer-implemented steps of:

2   decoding a single instruction;

3   in response to the step of decoding the single instruction,

4   accessing a first packed data operand having at least two data

5 elements; and

6   extracting one of the data elements from the first packed data

7 operand into a field of a destination register.

1   **12.**   The method of claim **11** wherein the step of extracting one of the data

2 elements from the first packed operand comprises extracting one of the data

3 elements from the first packed data operand into a field of a packed

4 destination register.

1   **13.** The method of claim **11** further comprising the step of packing floating

2   point data into the data elements.

1   **14.** The method of claim **11** further comprising the step of packing integer

2   data into the data elements.

1   **15.** A method comprising the computer implemented steps of:

2   accessing data representative of a first three-dimensional image;

3   altering the data using three-dimensional geometry to generate a

4   second three-dimensional image, the step of altering at least including,

5   accessing a first data operand having a data element;

6   accessing a second packed data operand having at least two data

7   elements;

8   inserting the data element in the first data operand into a destination

9   field of a destination register; and

10   displaying the second three-dimensional image.

1   **16.** The method of claim **15** wherein the step of altering includes the

2   performance of a three-dimensional transformation.

1   **17.** The method of claim **15** wherein the step of altering includes the step

2   of packing floating point data into the data elements.

1   **18.** The method of claim **15** wherein the step of altering includes the step

2   of packing integer data into the data elements.

1   **19.** A method comprising the computer implemented steps of:

2   accessing data representative of a first three-dimensional image;

3   altering the data using three-dimensional geometry to generate a

4 second three-dimensional image, the step of altering at least including,

5   accessing a first packed data operand having at least two data elements;

6 and

7   extracting one of the data elements from the first packed data operand

8 into a field of a destination register; and

9   displaying the second three-dimensional image.

1   **20.**   The method of claim **19** wherein the step of altering further includes

2 the step of extracting one of the data elements from the first packed data

3 operand into a field of a packed destination register.

1   **21.**   The method of claim **19** wherein the step of altering includes the

2 performance of a three-dimensional transformation.

1   **22.**   The method of claim **19** wherein the step of altering includes the step

2 of packing floating point data into the data elements.

1   **23.**   The method of claim **19** wherein the step of altering includes the step

2 of packing integer data into the data elements.